

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A method, comprising:

configuring, by a switch, a plurality of repeaters operating at a substantially identical communication frequency to coordinate transmissions of first and second data packets and thereby function as an access point with respect to first and second mobile stations, respectively, that are wirelessly communicatively coupled to a repeater from among the plurality of repeaters, the first data packet being characterized as having a first address that corresponds to the first mobile station and the second data packet being characterized as having a second address that corresponds to the second mobile station;

performing, by the switch, an address translation on the first and second addresses to identify a switch port from among a plurality of switch ports that corresponds to the repeater;

determining, by the switch, within the plurality of repeaters whether wirelessly transmitting the first and second data packets from the repeater to the first and second mobile stations, respectively, will create interference between the first and second data packets; and

wirelessly transmitting, by the switch, the first and second data packets through the switch port to the first and second mobile stations, respectively, repeater at different times when it is determined that wirelessly transmitting the first and second data packets from the repeater will create interference.

2. (Previously Presented) The method of claim 1, further comprising:

operating the plurality of repeaters as a communication channel in accordance with a wireless communication protocol.

3. (Cancelled)

4. (Currently Amended) The method of claim 1, wherein the step of transmitting the first and second data packets through the switch port further comprising comprises:

scheduling, at a by the switch coupled to the plurality of repeaters, transmissions of the first packet and ~~[[the]]~~ second packet data packets through the switch port to avoid interference that would prevent ~~one or both of the transmissions~~ the first and second data packets from being received by the first and second mobile stations, respectively.

5. (Currently Amended) The method of claim 4, wherein the step of transmitting the first and second data packets through the switch port further comprising comprises:

~~detecting whether substantially concurrent transmission of the first and second packets will cause interference prior to performing the scheduling; and~~

transmitting the first and second data packets ~~to the first and second mobile stations~~ through the switch port without performing the scheduling, if ~~overlapping transmissions of the first and second packets will not cause interference~~ transmitting the first and second data packets from the repeater to the first and second mobile stations, respectively, will not create interference between the first and second data packets.

6. (Currently Amended) The method of claim 5, wherein if ~~substantially concurrent transmission of the first and second packets causes interference, the method~~ transmitting the first and second data packets from the repeater to the first and second mobile stations, respectively, will create interference between the first and second data packets, and wherein the step of transmitting the first and second data packets through the switch port further comprises:

~~transmitting the first and second data packets through the switch port to the first and second mobile stations, respectively, according to the schedule~~ scheduling.

7. (Currently Amended) The method of claim 1, further comprising:
coordinately scheduling, at the plurality of repeaters, transmissions of the first ~~packet~~ and ~~[[the]] second packet~~ data packets to avoid interference that would prevent one or both of the transmissions from being received by the first and second mobile stations when it is determined that wirelessly transmitting the first and second data packets from the repeater will create interference.

8. (Currently Amended) The method of claim 1, ~~further comprising wherein~~ the step of determining whether wirelessly transmitting the first and second data packets comprises:

determining whether the first and second data packets are to be transmitted substantially simultaneously to the first and second mobile ~~stations;~~ stations, respectively, and

wherein the step of transmitting the first and second data packets through the switch port comprises:

transmitting the first and second data packets through the switch port to ~~the first and second mobile stations~~ at different time slots to avoid the interference[[,]] if the first and second data packets are ~~selected for~~ to be transmitted substantially simultaneously ~~transmission~~.

9. (Currently Amended) The method of claim 1, ~~further comprising~~ wherein the step of determining whether wirelessly transmitting the first and second data packets will create interference comprises:

maintaining in a first database information regarding whether communications of ~~one of the plurality of repeaters~~ the repeater will interfere with communications of another repeater from among [[of]] the plurality of repeaters.

10. (Currently Amended) The method of claim 9, ~~further comprising~~ wherein the step of determining whether wirelessly transmitting the first and second data packets will create interference further comprising comprises:

examining the first database to determine whether the communications of a ~~selected one of the plurality of repeaters~~ the repeater will interfere with the communications of the another repeater, of the plurality of repeaters; and

wherein the step of transmitting the first and second data packets through the switch port comprises:

delaying one of the first and second data packets to be transmitted by the selected repeater to ~~[[the]]~~ its respective mobile station if the communications of the selected repeater will interfere with the communications of the another repeater of the plurality of repeaters.

11. (Currently Amended) The method of claim 9, further comprising:
periodically transmitting, by the switch, a test packet through the switch port to collect interference information.

12. (Currently Amended) The method of claim 1, wherein the step of determining whether wirelessly transmitting the first and second data packets will create interference comprises:

maintaining in a second database a list of mobile stations and a corresponding plurality of repeaters that last received transmissions from the mobile stations.

13. (Currently Amended) The method of claim 12, wherein the step of determining whether wirelessly transmitting the first and second data packets will create interference further comprising comprises:

examining the second database to determine whether the ~~corresponding plurality of repeaters associated with the first and second mobile stations, when transmitting substantially currently,~~ repeater will interfere with transmissions from another repeater from among the plurality of repeaters when transmitting substantially currently, each other; and

wherein the step of transmitting the first and second data packets through the switch port comprises:

delaying transmissions of one of the first and second packets to ~~[[the]]~~ its respective mobile station if the transmissions from the ~~corresponding plurality of repeaters associated to the first and second mobile stations~~ repeater will interfere with the transmissions from the another repeater each other.

14. (Currently Amended) The method of claim 1, wherein the first and second addresses are a first destination internet protocol (IP) address that corresponds to the first mobile station and a second destination IP address that corresponds to the second mobile station, respectively, wherein the repeater is characterized as having a Ethernet Media Access Control (MAC) address from among a plurality of Ethernet MAC addresses, and wherein the step of performing the address translation on the first and second addresses comprises ~~further comprising:~~

performing the address translation on the first and second packets the first and second destination IP addresses to determine ~~respective the~~ Ethernet MAC addresses address of the repeater from among the plurality of Ethernet MAC addresses; and based on ~~respective destination IP addresses of the first and second packets;~~

identifying the switch port from among the plurality of switch ports that corresponds to the Ethernet MAC address of the repeater.

identifying which of the plurality of repeaters is closest to the first and second mobile stations having the respective Ethernet MAC addresses;

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Harry BIMS
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~~determining whether interference will occur between the transmissions that would prevent completion of the transmissions; and~~

~~scheduling the transmissions of the first and second packets to avoid the interference if interference would occur between the transmissions.~~

15. (Currently Amended) A method, comprising:

receiving, ~~[[at]]~~ by a switch, first and second data packets designated for transmission to a first mobile station and a second mobile station, respectively, via a plurality of repeaters transmitting on a substantially identical communication frequency, the first data packet being characterized as having a first address that corresponds to the first mobile station and the second data packet being characterized as having a second address that corresponds to the second mobile station;

performing, by the switch, an address translation on the first and second addresses to identify a switch port from among a plurality of switch ports that corresponds to the repeater;

detecting, by the switch, whether overlapping transmissions of the first and second data packets will result in interference that would prevent completion of [[the]] transmissions of the first and second data packets; and

scheduling, by the switch, the transmissions of the first and second data packets via the plurality of repeaters switch port to avoid the interference if it is determined that the overlapping transmissions of the first and second data packets will result in interference that would prevent completion of the transmissions of the first and second data packets.

16. (Currently Amended) The method of claim 15, wherein if the overlapping transmissions of the first and second data packets will not result in interference that would prevent completion of the transmissions of the first and second data packets, the method further ~~comprises~~ comprising:

transmitting, by the switch, wirelessly from the plurality of repeaters the first and second data packets through the switch port to the repeater to the first and second mobile stations, respectively, without delay.

17. (Currently Amended) The method of claim 15, wherein the plurality of repeaters are configured to operating operate as a communication channel in accordance with a wireless communication protocol.

18. (Cancelled)

19. (Currently Amended) The method of claim 15, wherein the first and second addresses are a first destination internet protocol (IP) address that corresponds to the first mobile station and a second destination IP address that corresponds to the second mobile station, respectively, wherein the repeater is characterized as having a Ethernet Media Access Control (MAC) address from among a plurality of Ethernet MAC addresses, and wherein the step of performing the address translation on the first and second addresses comprises further comprising:

~~performing the address translation on the first and second packets the first and second destination IP addresses to determine respective the Ethernet MAC addresses address of the repeater from among the plurality of Ethernet MAC addresses; and based on respective destination IP addresses;~~

~~identifying the switch port from among the plurality of switch ports that corresponds to the Ethernet MAC address of the repeater.~~

~~identifying which of the plurality of repeaters is closest to the first and second mobile stations having the respective Ethernet MAC addresses;~~

~~determining whether there is an interference between overlapping wireless communications of the identified repeater and other repeaters in the plurality of repeaters; and~~

~~performing the scheduling if there is an interference.~~

20. (Currently Amended) A method, comprising:

receiving, ~~[[at]]~~ by a switch, a data packet destined to a mobile station, the data packet being characterized as having an address that corresponds to the mobile station;

performing, by the switch, an address translation on the address to identify a switch port from among a plurality of switch ports that corresponds to a repeater from among the plurality of repeaters that is wirelessly communicatively coupled to the mobile station;

determining, ~~[[at]]~~ by the switch, whether immediately transmitting the packet from the repeater to the mobile station will cause an interference with other communications destined to the mobile station; and

transmitting, by the switch, the packet through the switch port to a ~~communication device communicatively coupled to the switch, the repeater wherein the~~ packet ~~is forwarded wirelessly to the mobile station~~ when it is determined that immediately transmitting the packet will not cause interference, interference.

~~wherein the communication device and other communication devices coupled to the switch transmit at a substantially identical communication frequency and coordinate transmissions of data packets, thereby functioning as an access point with respect to the mobile station.~~

21. (Currently Amended) The method of claim 20, wherein the ~~communication device and other communication devices~~ plurality of repeaters are configured to operating operate as a communication channel in accordance with a wireless communication protocol.

22. (Cancelled)

23. (Currently Amended) The method of claim 20, further comprising:

delaying ~~[[the]]~~ transmission of the packet through the switch port ~~to the mobile station~~ if it is determined that ~~an interference~~ immediately transmitting the packet would ~~occur~~ cause the interference.

24. (Currently Amended) The method of claim 23, ~~further comprising~~
wherein the step of delaying the transmission of the packet comprises:

scheduling the transmission of the packet at an alternative time slot where no other communications destined to the mobile station are occurring if it is determined that immediately transmitting the packet would not ~~[[no]] cause the interference would otherwise occur.~~

25. (Currently Amended) The method of claim 23, further comprising:

transmitting the packet through the switch port to the mobile station without delay ~~[[if]]~~ when it is determined that immediately transmitting the packet will not cause ~~[[no]] the interference would occur.~~

26. (Cancelled)

27. (Currently Amended) The method of claim ~~[[26]]~~ 20, wherein the address is a destination internet protocol (IP) address that corresponds to the mobile station, wherein the repeater is characterized as having a Ethernet Media Access Control (MAC) address from among a plurality of Ethernet MAC addresses, and wherein the step of performing the address translation on the address determining the closest communication device comprises:

performing, by the switch, the address translation on the packet destination IP address to determine ~~[[an]]~~ the Ethernet MAC address of the repeater from among the

~~plurality of Ethernet MAC addresses; corresponding to a destination IP address of the packet; and~~

~~identifying the switch port from among the plurality of switch ports that corresponds to the Ethernet MAC address of the repeater.~~

~~identifying a communication device associated with the mobile station having the determined Ethernet MAC address as the closest communication device.~~

28. (Original) The method of claim 27, wherein the address translation is performed via a table stored within the switch.

29. (Currently Amended) A system, comprising:

a plurality of communication devices coupled to a switch, the plurality of communication devices communicating wirelessly over substantially the same communication frequency with ~~one or more mobile stations~~ a plurality of mobile stations,

wherein the ~~plurality of communication devices~~ switch is configured to coordinate transmissions of data packets first and second data packets to first and second mobile stations from among the plurality of mobile stations, the first data packet being characterized as having a first address that corresponds to the first mobile station and the second data packet being characterized as having a second address that corresponds to the second mobile station, ~~to function as an access point with respect to the one or more mobile stations,~~ the coordinating including:

performing, by the switch, an address translation on the first and second addresses to identify a switch port from among a plurality of switch ports that corresponds to a communication device from among the plurality of communication device;

determining, by the switch, whether wirelessly transmitting the first and second data packets from the communication device to the first and second mobile stations, respectively, will create interference between the first and second data packets;
and

transmitting, by the switch, the first and second data packets through the switch port to the communication device at different times when it is determined that wirelessly transmitting the first and second data packets from the communication device will create interference.

~~determining, at the switch, whether immediately transmitting the packets to the one or more mobile station via the plurality of communication devices will cause an interference with other communications to the one or more mobile stations.~~

30. (Currently Amended) The system of claim 29, wherein the switch manages is configured to manage communications between the plurality of communication devices and the ~~one or more mobile stations~~ plurality of mobile stations.

31. (Currently Amended) The system of claim 29, wherein the plurality of communication devices ~~operate~~ are configured to operate as a communication channel in accordance with a wireless communication protocol.

32. (Cancelled)

33. (Currently Amended) An apparatus, comprising:

means for configuring a plurality of repeaters operating at a ~~single~~ substantially identical frequency to coordinate transmissions of first and second data packets ~~and thereby function as an access point with respect to first and second mobile stations, respectively,~~ that are wirelessly communicatively coupled to a repeater from among the plurality of repeaters, the first data packet being characterized as having a first address that corresponds to the first mobile station and the second data packet being characterized as having a second address that corresponds to the second mobile station;

means for performing an address translation on the first and second addresses to identify a switch port from among a plurality of switch ports that corresponds to the repeater;

means for determining ~~within the plurality of repeaters~~ whether wirelessly transmitting the first and second data packets from the repeater to the first and second mobile stations, respectively, will create interference between the first and second data packets; and

means for ~~wirelessly~~ transmitting the first and second data packets through the switch port to the ~~first and second mobile stations, respectively,~~ repeater at different times when it is determined that wirelessly transmitting the first and second data packets from the repeater will create interference.

34. (Currently Amended) An apparatus, comprising:

means for ~~receiving, at a switch,~~ receiving first and second data packets designated for transmission to ~~[[a]] first mobile station and [[a]] second mobile station stations,~~ respectively, via a plurality of repeaters transmitting on a substantially identical communication frequency, the first data packet being characterized as having a first address that corresponds to the first mobile station and the second data packet being characterized as having a second address that corresponds to the second mobile station;

means for performing an address translation on the first and second addresses to identify a switch port from among a plurality of switch ports that corresponds to the repeater;

means for detecting whether overlapping transmissions of the first and second data packets will result in interference that would prevent completion of ~~[[the]]~~ transmissions of the first and second data packets; and

means for scheduling the transmissions of the first and second data packets via the ~~plurality of repeaters~~ switch port to avoid the interference if ~~it is determined that the~~ overlapping transmissions of the first and second data packets will result in interference that would prevent completion of the transmissions of the first and second data packets.

35. (Currently Amended) An apparatus, comprising:

means for receiving ~~[[,]] at a switch,~~ a packet destined to a mobile station, the data packet being characterized as having an address that corresponds to the mobile station;

means for performing an address translation on the address to identify a switch port from among a plurality of switch ports that corresponds to a repeater from among the plurality of repeaters that is wirelessly communicatively coupled to the mobile station;

means for determining[[,]] ~~at the switch,~~ whether immediately transmitting the packet from the repeater to the mobile station will cause an interference with other communications destined to the mobile station; and

means for transmitting the packet through the switch port to a ~~communication device communicatively coupled to the switch,~~ the repeater wherein the packet is ~~forwarded wirelessly to the mobile station~~ when it is determined that immediately transmitting the packet will not cause ~~interference,~~ interference.

~~wherein the communication device and other communication devices coupled to the switch transmit at a substantially identical communication frequency and coordinate transmissions of data packets, thereby functioning as an access point with respect to the mobile station.~~